

W5YI

Nation's Oldest Ham Radio Newsletter

REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable. May be reproduced providing credit is given to The W5YI Report.

Fred Maia, W5YI, Editor, P.O. Box 565101, Dallas, TX 75356-5101
Tel. 817-461-6443 Electronic mail: 351-1297@mcimail.com

★ *In This Issue* ★
VECs Hold Annual Conference
STS-71 Shuttle Launch is Next!
Senate Telecommunications Bill
Internet Indecency & Obscenity
Microsoft & Intuit Won't Do It...
But IBM & Lotus Decide to Do It
News From the PC Industry
Wait Continues for Form 610-V
Amateur Family Has 23 Club Calls
Commercial Radio Operator Testing
Satellite Digital Audio Radio Service
Amateur Callsigns to June 1, 1995
High Speed CW Championship
Spread-Spectrum Ham Satellite
..and much much more!

Vol. 17, Issue #13

\$1.50

PUBLISHED TWICE A MONTH

July 1, 1995

VECs HOLD ANNUAL CONFERENCE!

Volunteer Examiner Coordinators (VECs) from all over the United States converged on Gettysburg, PA, June 22nd for their two day annual conference. The eleven VEC organizations in attendance represent nearly all of the operator license examinations administered in the Amateur Service.

The purpose of the meeting is to agree on future license testing parameters and to meet with the Federal Communications Commission. All VECs operate under a Memorandum of Agreement with the FCC. The activities of each VEC are guided by the Communications Act, especially Part 97 and a set of internally generated instructions which are also submitted to and approved by the FCC.

The conference was chaired by CAVEC's Don Tunstill, WB4HOK. The Thursday meeting was essentially a business meeting. Ray Adams, N4BAQ, led a discussion of the merits of incorporating the National Conference of VECs (NCVEC) into a non-profit corporation. The corporation would consist of directors only, no members.

The proposal was overwhelmingly approved by the VECs, and Ray will apply for non-profit incorporation under Article 501(c)3 of the Internal Revenue Code. The NCVEC, Inc., charter and initial bylaws were accepted by the VECs. It was also agreed that the VECs would seek additional funding from outside sources to help finance the attendance of smaller VECs who historically have been unable to attend the conference. Fred Maia

of the W5YI-VEC was appointed chairman of the NCVEC Financial Support Committee.

R. C. Smith, W6RZA of the Greater Los Angeles ARG-VEC led a discussion which resulted in several revisions to the guidelines under which all VECs operate.

Ray Adams, Chairman of the VECs Question Pool Committee (QPC) reported that the next license examination questions to be revised will be Element 4(B); required for the Extra Class license. The QPC will review current and suggested Element 4(B) questions and release revised questions on Dec. 1, 1995. The new question set must be used in all Extra Class examinations administered on/after July 1, 1996. Bart Jahnke, KB9NM (ARRL/VEC) submitted the ARRL's suggestions for the Element 4(B) revisions.

Rules Committee Chairman Win Guin, W4GLJ, Chairman submitted a report. The VECs agreed to support pending rulemaking initiated by the NCVEC (RM-8418) that will recognize the VE Session Manager as having primary responsibility for examination session integrity. Some revisions to the VE Session Manager rules will be requested, however. The Conference decided to recommend that an ARRL proposal (RM-8418) which would grant examination credit to former amateur licensees whose license has expired not be adopted. These two items are part of WT Docket No. 95-57.

A general discussion followed on the

electronic filing of amateur operator applications with the FCC's Larry Weikert, Judy Dunlap and Mike Kemper in attendance. It was agreed that electronic filing and its accompanying quick license grant was working very well for all concerned. The VECs impressed upon the FCC that they were concerned with the security of the internet.

The Friday NCVEC meeting was more formal. FCC officials in attendance included John B. Johnston, Bill Cross, Monty DePont, and Bob McNamara from the Private Wireless Division, Tom FitzGibbon from the Enforcement Division (Washington, DC) and Darlene Reeder, Larry Weikert, Walt Boswell, and John Chudovan from the (Gettysburg, PA) Licensing Division.

Remarks by John B. Johnston, W3BE

Electronic filing: "First off, I want to congratulate you and to thank you for your superb effort in making electronic filing a reality. Last year we asked you to support this project because it could practically eliminate the license processing turn-around time. You did ...and it did. Waiting for that new license is a thing of the past. We are hearing glowing reports of new hams getting their license grants in record time."

Rule changes: "Last year, we asked you about rule changes necessary to make electronic filing possible. Based on your response, we drafted the necessary amendments.

Section 97.519 was revised to enable you to forward electronically the data from the 610 documents for the examination sessions you coordinate. Several rules were also amended to authorize operation on the basis of the licensee data appearing in the data base...

We are also proposing rules for a special event call sign system. In the vanity item, at the request of the League, we set aside the 780 one-by-one call signs for such a system.

Finally, we proposed a rule amendment that would provide licensees with greater flexibility when an amateur station is using self-assigned indicators with the call sign.

Copyrighting the question pools: As to the suggestion that the VECs copyright the question pools and then charge publishers who want to access them: ...The purpose of Government is to serve the public interest. The preparation of the question pools is an activity that you perform voluntarily on behalf of the Government for the public. The whole purpose of the question pools is to inform examinees, examiners, educators, the entire amateur service community, and any other interested party as to exactly what a person has to know in order to receive the grant of a license to operate an amateur station.

Copyrighting the pools would be fundamentally contrary to the Commission's goal to give the best service that it can to the public it serves at minimum cost. The question pools are in the public domain. That means they are accessible to anyone, including publishers, and there is no charge for them.

Funding: "The statute leaves no doubt where reimbursement funds are to come from. Those funds must come from the

examinees. That is the only source of funds authorized for the volunteers to collect for providing service to the public in the name of the United States Government. No other solicitation of funds is authorized in the VEC system. We believe that it would be illegal to do so... The Conference may want to approach the Congress to have legislation passed to authorize the type of funding it decides that it requires.

Secondly, the Conference may collect dues from its member VECs who, in turn pass the cost on to the examinees. We believe that the Conference is a part of a voluntary service for which the Act states you may recover your out-of-pocket costs from the examinees.

VE Statistics: Johnston said that VE examination statistics seem to be significantly in error. [This is probably caused by the influence of electronic filing. The previous system involved the tabulation of FCC Form 610 applications and paper session reports which are no longer being sent to Gettysburg. We ordinarily publish these figures in The W5YI Report, but will not do so until corrections can be made.]

FCC Wish List: Before I close, I want to go over our 1995 wish list with you.

1. We would like for the VECs to file the best possible comments in WT Docket No. 95-57. In particular, should the VEs be authorized to give examination element credit to a former licensee for any examination that the applicant previously passed in obtaining the former license? What is the criteria that we should use to allow any other persons similarly situated (such as former and current holders of other types of operator licenses issued by the Commission, other U.S. Government agencies, and foreign government) to obtain examination credit, without examination, for amateur operator licenses?

Should the rules recognize the role of the VE session manager. If so, what is that role and how should it be regulated?

2. We would like to learn what the legal basis could be for the VECs, on a totally non-reimbursable basis, to accept applications for license grant modifications and renewals for electronic filing.

3. We would like to learn which rules in Part 97 would need to be changed to allow such activity.

4. We would like to learn about any changes in the Communications Act that the VECs might seek in order for you to be reimbursed for electronic filing of license grant modifications and renewals.

5. We would like to learn of any changes in the Communications Act that the VECs might seek in order to fund activities.

All-in-all, 1994 was your best year ever, and 1995 is off to a good start. Congratulations!

Johnston also distributed copies of a "Schedule of Regulatory Fees for FY 1995" which were adopted on June 19, 1995. Amateur Vanity Call signs previously were to have a \$7 annual Regulatory Fee. The FCC Commissioners have now reduced many fees for the private wireless radio services to \$3 including Amateur Vanity Call Signs ...or \$30 for a ten year term. The new Regulatory fees take effect on Sep. 18, 1995. We will cover this in more detail in our next issue.

STS-70 SAREX MISSION DELAYED, STS-71 NEXT!

The Space Shuttle Discovery mission, which was planned for a June 8 liftoff, has now been postponed until at least July 13. Discovery has been rolled back to the Vehicle Assembly Building hangar.

It is presently being inspected and repaired after some yellow-shafted flickers, a type of woodpecker, pecked over 100 holes, some as large as 4 inches in diameter, into the foam insulation of Discovery's brownish-red external tank.

One may find it amusing to note that Astronaut Ron Parise, WA4SIR didn't have the woodpecker problem on his flight (STS- 67, the last shuttle mission) because they had an owl nesting in the launch tower. The nesting owl was unfortunately barbecued during STS-67 liftoff.

Many amateur aviators place a plastic owl model on their tied down airplane to keep birds from nesting and pecking. NASA had them placed around the site, as well as taped owl noises. The woodpeckers weren't phased by them at all. NASA even resorted to using horns, but it wasn't enough.

The STS-70 mission was to achieve a 100th milestone in the history of the American space program as it was to mark the 100th human space mission flown by the United States, a record that began with Alan B. Shepherd's momentous 15-minute suborbital flight into space in 1961.

The STS-70 Space Shuttle Discovery mission's primary objective is to deploy the last in the current series of Tracking Data Relay Satellites. These satellites are used by NASA and the Air Force for Shuttle communications as well as for scientific and military payload data transmissions.

STS-70 with Discovery will fly the Shuttle Amateur Radio Experiment - Configuration "C" (courtesy Astronaut Don Thomas, KC5FVF) into a 28.5 degree orbit. The SAREX payload will operate with both FM voice and packet for seven days.

Space Shuttle Endeavour is also set to be launched on Mission STS-69 on July 30. The new flight dates for Discovery and Endeavour had no impact on Space Shuttle Atlantis being prepared for the STS-71 launch of the first Shuttle-Mir docking mission now scheduled for late June.

The next launch will now be the big one, STS-71

This mission represents the first docking of the U.S. Space Shuttle with the Russian Mir Space Station. The launch time was targeted for June 23rd at 5:08:37 p.m. EDT at the opening of a seven minute window. An on-time launch would have allowed docking with Mir to take place on flight day four of the mission at about 10:30 a.m. EDT. Atlantis will remain docked

to Mir for almost five days during which the crews aboard both vehicles will conduct joint life sciences research experiments.

But it was not to be. Thunderstorms at the Cape forced a delay until June 24th. And that launch also had to be called off until at least June 27. Hopefully STS-71 will be underway by the time you read this.

This historic mission is the first of seven planned joint missions and comes almost twenty years after the two nations took the first steps towards joint cooperation with the Apollo-Soyuz linkup in July 1975. Atlantis' crew will consist of five Americans and two Russian cosmonauts.

The STS-71 crew includes with Shuttle Astronauts Hoot Gibson, Charlie Precourt KB5YSQ, Ellen Baker KB5SIX, Greg Harbaugh, and Bonnie Dunbar. Also aboard Atlantis will be Cosmonauts Anatoly Y. Solovyev and Nikolai M. Budarin. Solovyev and Budarin will remain aboard Mir when Atlantis undocks from MIR and returns to Earth. U.S. Astronaut Norm Thaggard and Russia Cosmonauts Vladimir Dezhurov and Genady Strekalov plan to return home when the Space Shuttle Atlantis lands at the Kennedy Space Center.

At the end of joint docked activities, the two Russian cosmonauts launched aboard Atlantis will assume responsibility for operations of the Mir station. The Mir-18 crew, who have been aboard Mir since March 16th, will join the STS-71 crew for the return trip to Earth.

One of the Mir-18 crewmembers, American astronaut Norm Thagard, will return home with the American record for a single space flight with more than 100 days in space. The previous record was held by the Skylab-4 crew with 84 days in 1973-1974.

Like STS-70, STS-71 will be a "SAREX" mission except that it will be flying in Configuration "M", as in Mir. The STS-71 Atlantis docking mission will use the Mir communications equipment to simulate SAREX. That is, the Mir transceiver on the orbiter will be used to make amateur 2-meter voice contacts when they are not docked.

The downlink frequency will be 145.840 MHz instead of the usual 145.550 MHz. The uplink frequencies will be 144.45 and 144.47 worldwide. There will be no packet communications during STS-71.

Pilot Charlie Precourt KB5YSQ, and Mission Specialist Ellen Baker KB5SIX, will talk to 5 schools in the United States and Russia during the mission.

Send STS-71 reports and QSLs to ARRL STS-71, 225 Main Street, Newington, CT 06111, USA. Include STS-71 date, time in UTC and frequency and a large, business-sized SASE. The Sacred Hearts Academy Radio Club, Honolulu, Hawaii has generously volunteered to distribute the QSL cards for this mission.

GOVERNMENT

- An infohighway built by competitive pressures moved closer to passage during mid June. The U.S. Senate overwhelmingly approved (81-18) an overhaul of the 1934 Communications Act that will affect every one of you! Here is what the Senate Bill provides:
 - Removes cable rate restrictions on expanded services. (Basic cable would remain regulated.)
 - Where there is local phone competition, local telcos may offer long-distance service.
 - Cable operators may offer telephone service and telcos can offer cable service over their lines.
 - Parental blocking of certain television programs
 - Internet and consumer on-line service blocking of indecent material that could be seen by minors. (This started out as Senator James Exon's "Communications Decency Act of 1995," S.314. It has now been folded into the telecom reform bill as an amendment. And a companion version has been introduced into the House version.)
 - Relaxes ownership restrictions on commercial radio and television stations.
 - Foreign ownership rules relaxed on TV stations and telephone companies.
 - Gives most schools and hospitals preferential telecommunications rates
 - Creates a federal and state panel to ensure reasonably priced rural telecommunications.
 - Requires states to use a "price cap method" rather than a "cost-to-provide" local phone service
 - Allows electric utility companies to enter telecommunications business "...including the automatic programming of lights and appliances."

Long term, the bill will mean lower prices for consumers ...new services and "one stop" telecommunications shopping. Short term, it could mean higher prices and confusion as companies scramble to get into place on the Infohighway. Consumer advocates are worried that without controls, cable and phone prices will increase while competition is gearing up. The House version of telecommunications reform is on the horizon.

- **Of particular interest to communications enthusiasts** is the Senate's adoption of a measure that would provide for two year jail terms and \$100,000 fines for the on-line transmission of obscene material ...and indecent transmissions to minors. On-line services would only be liable for image or text transmissions that they know about.

It would be a crime to include questionable language in on-line public forums, chat-rooms, e-mail

(Yes, electronic mail!) or on the Internet. To escape prosecution, on-line services would have to show that they have taken reasonable precautions to keep questionable material away from minors. Several software companies (including Microsoft) are developing screening software.

While the House telecom bill does not contain any cyber-porn provisions, two House members recently introduced bills that would ban violent and sexually explicit video programming between 6 a.m. and 9 p.m. and require new television sets to contain program blocking technology known as "Choice Chips."

- **Prodigy held responsible for its On-Line Content!** On May 25, New York State Supreme Justice Stuart L. Ain ruled that **Prodigy is liable for comments posted by subscribers to its service.** The case came up when a MoneyTalk financial bulletin board user referred to an initial public securities offering as being fraudulent. Stratton-Oakmont, Inc., an investment company, sued Prodigy for libel.

In a 15-page opinion, Ain said that, unlike some other on-line services, Prodigy pre-screens all user messages for offensive language. He found that Prodigy was therefore more like a publisher than a bookstore since it exercised active editorial supervision over its material rather than being a "...passive conduit of information. ...Prodigy has marketed itself as a superior service precisely because of its editorial control," Ain said.

The on-line information industry is closely watching this case and universally contend that it can't be responsible for what its subscribers post. Such services as Compuserve's CB, Prodigy's Chatline, America On-Line's People Connection and the Internet IRC chat sessions all take place in real time and can not be easily censored.

Prodigy uses a software program to prescreen some 60,000 bulletin board messages posted daily and appoints "board leaders" to enforce its anti-obscenity guidelines. The bottom line seems to be that if you use editors and software to screen for content, then you are subject to the same liabilities as a newspaper.

- **Technology provides alternate to legislation.** Surfwatch Software is a new \$50 package that makes it possible for parents to screen on-line pornography. Its built-in "naughty list" prevents computer users from accessing up to 250 Internet Newsgroups that contain sexually explicit and graphic material. The company uses college students to search the Net looking for "porn sites" which are then added to the lock-out list. A subscription service adds new blocked sites to your software.

W5YI REPORT

Nation's Oldest Ham Radio Newsletter

Page #5

July 1, 1995

NEWS FROM INDUSTRY

• **Who is selling the most PC's in the U.S.?** For the second quarter in a row it is Packard Bell! Researcher International Data Corp. (Framingham, MA) says the top computer marketers for the first quarter:

Vendor	Shipments	Share	Growth Over '94
Packard Bell	591,000	12.7%	37% Increase
Compaq	530,000	11.4%	12% Increase
Apple	477,000	10.2%	17% Increase
IBM	410,000	8.8%	37% Increase
Gateway 2000	251,000	5.4%	15% Increase
All Others	2,407,000	51.5%	22% Increase
Total	4,666,000	100%	23% Increase

Less than ten years old, Packard-Bell was formed by three Israeli immigrants. The company was given a \$20 million cash infusion in 1993 by Groupe Bull, the French computer maker, for a 20% interest in the company. Packard Bell was the first computer company to deliver PCs with the operating system and key software already installed (1987), first to offer a toll free support line (1988), first to include an internal CD-ROM drive (1991) and first to offer Pentium-chip powered PCs (1994). A study by PC Magazine says that Packard-Bell offers home buyers better value for their money. (Fortune Magazine, June 12, 1995)

• **Phone companies (AT&T, MCI and Sprint) are now offering lifetime "500" numbers** that follow you everywhere through call forwarding or sequencing. Cost for the new service is \$7 per month. Calls can be automatically routed to up to three destinations. A recorded message tells the caller that it is trying to reach you at other locations. You can even order your own "vanity" number. Lifetime domestic per-call rates are 25 cents per minute at peak hours and 15 cents off peak. (Small Business Computing, May 1995)

• **Commodore PCs are coming back!** A German computer retailer paid \$10 million for the right to the Commodore name, its patents and other intellectual property in a bankruptcy court auction. The new Commodore and Amiga computers will be manufactured in China and distributed world-wide by Escom AG, operator of 1,500 computer stores in Europe..

• **Remember the problem Intel had with their Pentium microprocessor chip?** It seems that PC users could not divide properly in certain very isolated instances. Although Intel agreed to replace an estimated 5.5 million defective Pentium chips, only about half a million - less than 10% - were actually replaced. Most were from corporate users. Intel's original view proved right. The problem was not worth the trouble of installing a defect-free chip. Biggest cost to Intel was the 1.5 million flawed chips in inventory that were dumped.

Intel has learned its lesson! It will now begin lending PCs containing early versions of its next generation chip to selected users - like the Virginia mathematics professor who discovered the Pentium flaw. The new "P6" chip will be beta tested by several hundred scientists and other "power users." Due out this fall, the tiny "P6" runs at 150 MHz and has 5.5 million transistors compared with the Pentium's 3 million. And a 200 MHz chip is next!

Intel and Oracle Corp. have entered into a partnership that will bring full motion interactive video-on-demand to personal computers over existing telephone lines rather than waiting for fiber-optic cabling. (Wall Street Journal, various dates)

• **Forbes Magazine (May 22nd issue) says that software is becoming a threat to certain careers!** Lawyers, doctors, accountants, travel agents, financial planners, insurance sales and librarians - to name a few - are now facing serious competition from computer programs! "WillMaker" has written more boilerplate wills than any lawyer alive. Software available to the medical profession will eventually be available to consumers. You simply answer questions about symptoms and out comes the probable diagnosis based on years of collecting statistics on ailments.

• **"Kinkos - Your Branch Office That Never Closes"** is the international privately held empire of 800 outlets that offers all sorts of state-of-the-art photocopying, videoconferencing, photo-processing machines and desktop publishing spewed from computers rented by the hour. The firm is named after the kinky hair-do on the red-Afro'd hippie who founded the operation in 1980, Paul Orfalea. Due to severe dyslexia, Orfalea had to attend third grade with retarded children. Kinko's annual revenues "...probably exceeds \$525 million." (Wired Magazine, June 1995)

• **Hewlett-Packard's new 600-dot resolution LaserJet 5P printer can print from wireless infrared commands transmitted from notebook computers!** It ends the necessity of copying files to a floppy disk or fumbling with cables. The infrared light is the same as used in television remote controls. (Business Week)

• **It is probably no surprise that Microsoft's DOS 6.2 and Quicken for Windows are the No. 1 and 2 selling software products.** But do you know what No. 3 is? Probably not. Well, it is a utility called **"Un-installer for Windows."** When you install a new Windows program, it leaves behind footprints since system files (such as the autoexec.bat) and other programs may have been modified without your knowledge. Getting rid of a program is not as easy as installing it!

PERSONAL COMPUTING

MICROSOFT & INTUIT WON'T DO IT (or will they?)

Bottom line: Get Ready for Home Electronic Banking

We told you about the battle Microsoft Corp. was having trying to merge with Intuit in our March 1st issue, page 8. Microsoft, the world's biggest PC software company, wanted to shell out some \$2.1 billion to purchase Intuit, the largest publisher of personal financial software. Intuit's "Quicken" (7 million users) owns 70% of the market. Microsoft's "Money" is a distant second with a 22% share ...and one million users.

It seems that a maverick federal judge was convinced by Microsoft's critics that Bill Gates & Company would dominate the emerging personal finance market by engaging in unfair business practices. Judge Stanley Sporkin then rejected an antitrust settlement between the Justice Dept and Microsoft. Both appealed.

The banking industry also believed that the merger posed a threat even though home banking and bill paying has been around (and a loser) for years. Some of Quicken's revenue comes from a clearinghouse it purchased last year. And Intuit is lining up banks and brokerage houses to electronically process financial transactions for a fee.

The banks were concerned that the user numbers could go up fast if Quicken is imbedded in Microsoft's operating systems. Some 20 million PC's annually come preloaded with this software. And next month Microsoft adds an on-line service, the Microsoft Network, a double threat. Microsoft could easily become the Cyperspace National Bank and offer 24-hour check balancing, bill paying ...even stock buying. Electronic banking is potentially a very big market. Only 1% of U.S. households now bank by PC.

Banks hooking up with the Micro-Quick "front end" would be assessed a service fee. One consulting firm said Microsoft could be raking in some \$2 billion annually from financial electronic services within five years. Analysts pointed out that it took more than a decade for ATM's to catch on.

The banks, it seems, are now starting to get the message. In May, the second and fourth largest U.S. bank, BankAmerica Corp. and NationsBank purchased H&R Block's "Managing Your Money" (600,000 users) which will be offered to other financial institutions. The nation's largest bank, Citicorp, already packages its banking products with "Managing Your Money."

And now that there are ways to insure security, Wells Fargo has begun giving its customers access to bank account information over the Internet. They balk at granting would be competitors access to their customer list.

The Justice Dept. sued Microsoft on April 27 to

block the merger. A trial was set for June 26. On May 20th, Microsoft said they would not to proceed with the purchase. Both Microsoft and Intuit reluctantly decided to go their separate ways.

The plot thickens! A bombshell was dropped by the three judge appeals court on June 16th. They not only reversed District Judge Sporkin's ruling, but removed him from the case for overstepping his authority in ruling against the Microsoft/Justice Dept. consent decree which was reinstated. There is now speculation that Microsoft may make a second attempt to buy Intuit, Inc. In any event, get ready for the big push on electronic banking. It is coming.

BUT IBM & LOTUS DECIDE TO DO IT! (or will they?)

Bottom line: IBM intends to compete with Microsoft!

Microsoft is in the same position that IBM was in the 1960's and 70's when they were the dominant computing force. That is before PC's took over from mainframes. Thanks to microchips, what used to be room-size now sits on a corner of your desk. IBM sells more software than Microsoft ...but not PC software.

IBM is not happy that Microsoft operating systems and Intel chips inhabit nearly all of its personal computers. Their OS/2 operating system has only 12% of the market. Two years ago, IBM had a major reorganization and a new Chairman/CEO, Louis V. Gerstner was brought on board from RJR Nabisco.

An emerging technology called "groupware" allows PC users to use the same information regardless of their location. It has been called the killer application of PC networking. "Lotus Notes" is the leading product in this category and works with OS/2. It was introduced Dec. 6, 1989 and is now a hot global product. But Lotus does not have the market clout to take advantage of it. Microsoft has a similar product coming (called "Exchange") but it is far from ready.

Deep-pocketed IBM launched a hostile takeover on June 5th for money-losing Lotus Development Corp. at \$60 per share. It later turned friendly when Lotus agreed to a \$3.53 billion (\$64 a share) buyout. Many Lotus employees reaped multi-million dollar increases when their Lotus shares doubled at the takeover price.

IBM's plan is to exploit the advantages of OS/2, their newly introduced PowerPC chip and "Notes." They want the combination to replace "Windows" and Intel chips as the new PC standard. Lotus is also the only major software company to offer word-processing and spreadsheet programs that works with OS/2.

The big question is how will the Justice Dept. react to Lotus being acquired by IBM? One thing is certain, however. Bill Gates would never have been allowed to takeover Lotus Development Corp.!

• **CQ Communications, Inc., publishers of CQ Magazine have a new 24-hour on-line ordering system** available to anyone with access to Internet e-mail. Customers sign up by requesting an online application form via e-mail. The application form (complete with credit card number) is sent by regular mail back to CQ who assign a customer number. You order using only your customer number and goods are shipped to the address on the application. Sign-up applications may be requested via e-mail only to any of the following addresses:

CQ@genie.geis.com
NW2L@aol.com
CQMagazine@aol.com
p00259@psilink.com (or)
72127.745@compuserve.com

• **The amateur community is still (impatiently) waiting for the FCC to release the new FCC Form 610-V (as in "Vanity.")** This is the form that will be used to request a specific amateur station call sign. Amateurs who already have a call sign may indicate up to 25 call signs on the form and the available call sign highest on the list will be assigned. The new cost will be \$30.00 for a ten year period.

Amateurs will be eligible to apply in four starting "gates" with the first gate opening to previous call sign holders and to amateurs who wish to obtain the call sign of close deceased relatives. We have up-to-date copies of the Part 97 Rules which contain all of the rules surrounding "Vanity" call signs. (Cost of the FCC Rule Book is \$2.95 postpaid if you want a copy.)

The delay in getting the program started is caused by several Petitions for Reconsideration of the Vanity Call Sign Rules. The FCC Form 610-V cannot be released until these petitions are cleared up.

The FCC has promised us that they will send us a camera-ready copy of the form once it is ready for release ...and before they have it printed. The GPO (Government Printing Office) has their forms printed in federal prisons by inmates and this can be a very time consuming job. If you send us a SASE (large business size stamped-self addressed envelope) we will see to it that you get an advance copy of the FCC Form 610-V. At this point, there is no

telling when this will be - but our best guess is that it should be available within 30 to 60 days.

• **PR Docket 93-305 "Amendment of the Amateur Service Rules to Implement a Vanity Call Sign System"** not only provided for a vanity call signs but re-instituted club station call signs. As of March 24, 1995, club call signs are now being issued from the two-by-three (Group "D") block. They eventually will be able to be traded in for vanity club call signs upon payment of \$70. And therein lies the problem. It apparently never occurred to the the FCC that club call signs would be abused.

It did, however, to the American Radio Relay League and they petitioned the FCC (assigned RM-8462) to require clubs to have at least four members. Current rules require only two amateurs to form a club. See Section §97.5(b)(2).

At least one family of four living at the same address in southern California have now accumulated at least 23 club call signs in the last couple of months. Furthermore, this does not appear to be illegal provided they have "...a club name, a document of organization, management and a primary purpose devoted to amateur service activities..."

According to FCC records, the Tucker family all live at: 14109 White-rock Dr., La Mirada, CA 90638. So far they have accumulated:

Eric G. Tucker, AA8ET, Club Trustee

KE6SWM, Arbol Olivo Amateur Radio Club
KE6SWN, Live Tree Amateur Radio Club
KE6TNT, Ardvard Amateur Radio Club
KE6TXG, Southern California Amateur Radio Group
KE6UEP, Los Angeles Amateur Radio Club
KE6UEQ, Los Angeles Amateur Radio Association

Kathryn K. Tucker, AA6TK, Trustee

KE6SPV, Southern California Amateur Radio Association
KE6SPZ, La Mirada Municipal Amateur Radio Club
KE6SWO, Mighty Wonderful Repeater Association Auxiliary
KE6SWQ, Southern California Six Meter Club Auxiliary

KE6TDA, Historical Amateur Radio Club of Southern California
KE6TXC, Orange County Repeater Project
KE6TZH, Erehwon (Nowhere spelled backwards) ARC
KE6UVG, Illibuck Amateur Radio Association

Roy T. Tucker, N6TK, Club Trustee

KE6SQA, La Mirada Civic Amateur Radio Club
KE6SPU, Southern California Amateur Radio Club
KE6TZI, Shangri La Amateur Radio Club
KE6SWP, Mighty Wonderful Repeater Association
KE6SWR, Southern California Six Meter Club
KE6TDB, Antique Amateur Radio Club of Southern California
KE6TXB, Los Angeles County Repeater Project
KE6UVH, Illibuck Amateur Radio Club

Kent A. Tucker, AA6KT, Club Trustee

KE6TXF, Southern Calif. Amateur Radio Organization

• **Los Angeles County (California) hams now have a very favorable antenna tower ordinance** thanks to assistance from the Tri-County Amateur Radio Association, the Los Angeles Council of Amateur Radio Clubs, ARRL officials and County Disaster Communications personnel. Prior to the Northridge earthquake, the building code would only allow roof mounted antennas over 35 feet, but not ground mounted towers without a costly (over \$3,000) variance. Soon after the disaster, the County realized the value of ham radio communications. Amateurs are now allowed retractable antennas up to 75 feet and one vertical antenna over 35 feet tall. And there is also a less costly variance arrangement for antennas that do not comply with the requirements. Persons who contest the variance must also pay a planning review fee. No permit is needed for antennas less than 35 feet in height.

CORRECTION: In the June 15, 1995 issue of The W5YI Report, a statement was attributed to Chris Imlay, N3AKD, ARRL General Counsel. In fact, Imlay did not make any such statement. The W5YI Report regrets the error.

W5YI REPORT

Nation's Oldest Ham Radio Newsletter

Page #8

July 1, 1995

COMMERCIAL RADIO OPERATOR EXAMINATIONS

The FCC's Wireless Telecommunications Bureau released the 1994 Annual COLE Managers Financial Report. COLE (Commercial Operator License Examination) Managers are the commercial equivalent of the Amateur's VEC (Volunteer Examiner Coordinator.)

COLEM	Revenue	Expenses	Income
Elkins	\$290,370	\$239,599	\$50,771
NRE	129,955	114,811	15,144
Drake	45,435	37,322	8,103
NARTE	42,860	43,899	(1,029)
Sea Sch.	39,498	32,923	6,575
Sylvan	35,375	53,408	(18,033)
ETAI	34,575	38,455	(3,880)
ISCET	28,872	21,944	6,929
NABER	7,295	7,106	188
Totals:	\$654,235	\$589,467	\$64,768

EXAMINEES & REVENUE

	Total	=====	Per Examinee=====	
COLEM	Examinees	Revenue	Expenses	Income
Elkins	5,165	\$56.22	\$46.39	\$9.83
NRE	3,713	35.00	30.92	4.08
Drake	775	58.63	48.17	10.46
NARTE	1,022	41.94	42.94	(1.01)
Sea Sch.	601	65.72	54.78	10.94
Sylvan	736	48.06	72.57	24.50
ETAI	1,270	27.22	30.28	(3.06)
ISCET	879	32.85	24.96	7.88
NABER	128	56.99	55.52	1.47
Total/Ave.	14,289	\$45.79	\$41.25	\$4.53

Elkins Institute, Inc, Dallas, TX

National Radio Examiners, Div. W5YI Group, Inc., Dallas, TX

Drake Training & Technologies, Bloomington, MN

Nat'l Assoc. of Radio Telecom. Engineers, Medway, MA

Sea School, St. Petersburg, FL

Sylvan Kee Systems, Columbia, MD

Electronic Technicians Assoc. International, Greencastle, IN

Internat'l Society of Certified Electronics Tech's, Ft. Worth, TX

Nat'l Assoc. of Business & Educational Radio, Alexandria, VA

Commercial Radio Operator testing follows the model established in the Amateur Service. There are eight commercial radio operator licenses and endorsements which require passing one or more written or telegraphy examinations. They are the:

1st/2nd/3rd Radiotelegraph Operator Certificate,

General Radiotelephone Operator License,

Marine Radio Operator Permit,

GMDSS Radio Operator,

GMDSS Radio Maintainer and the

Ship Radar Endorsement.

All written examinations are based on a question pool system. New questions will be released this month covering the GMDSS Radio Operator and Maintainer. The others will follow shortly. The implementation dates of these new pools has not yet been determined.

SATELLITE DIGITAL AUDIO RADIO SERVICE

The FCC has released new rules which will make available to the American public a nation-wide super high-tech satellite Digital Audio Radio Service (DARS.)

Satellite DARS will provide multiple channels of high CD-quality audio broadcast programming to homes and motor vehicles nation-wide. DARS also has the potential to target niche audiences.

In 1992, the FCC played a prominent role in securing an international spectrum allocation for DARS use. Earlier this year, the FCC allocated the 2310-2360 MHz band for satellite DARS. The NPRM begins the last phase before the FCC starts issuing licenses.

The Commission wants comments on how many nationwide licenses should be assigned; how licensees should be selected, how the service should be regulated, and whether licensees should be permitted to use some of their spectrum for non-DARS services.

The FCC could assign all spectrum to the four current DARS applicants, license some now and holding some spectrum in reserve ...or open the spectrum to all interested parties. DARS will both compete with and complement traditional local AM and FM radio. The FCC wants to know the impact of DARS on these terrestrial broadcasters and the listening public.

Satellite DARS could stimulate significant economic growth by creating jobs in various industries involved in the development, manufacture, installation and operation of spacecraft and receivers, programming, satellite uplink facilities and customer service centers. Many of these economic opportunities would be available to non-licensees, the FCC said.

Because the construction costs for the space station proposed in the pending applications range from \$320 million to over \$622 million, and the manufacturing costs for their proposed ground segments, including feeder link earth stations and the end user receivers are expected to be in millions of dollars more, satellite DARS potentially could lead to substantial investment in the U.S. economy.

FCC Commissioner Quello called the proceeding "contentious" and said he was concerned that Satellite DARS might adversely impact terrestrial radio and its ability to serve local communities.

Commissioner Susan Ness also issued a statement supporting the DARS proposal that could bring CD-quality radio to traditionally underserved rural areas. She agreed that the 50 MHz of spectrum (more than twice as much as currently allocated to AM and FM radio combined) could beam one hundred or more signals nationwide and had the potential to overwhelm local broadcasting. She favors rules which will maximize the unique benefits of DARS while minimizing its adverse impact on local terrestrial broadcasters.

W5YI REPORT

Nation's Oldest Ham Radio Newsletter

Page #9

July 1, 1995

AMATEUR RADIO CALL SIGNS

...issued as of the first of June 1995:

Radio District	Gp."A" Extra	Gp."B" Advan.	Gp."C" Tech/Gen	Gp."D" Novice
0 (*)	AA0XW	KG0XC	(***)	KB0SWQ
1 (*)	AA1NO	KE1BU	N1VGK	KB1BSD
2 (*)	AA2XP	KG2CX	(***)	KB2UXP
3 (*)	AA3LW	KE3TS	N3VOD	KB3BJL
4 (*)	AE4IU	KS4YB	(***)	KF4AQY
5 (*)	AC5DE	KK5PK	(***)	KC5OYU
6 (*)	AC6NN	KO6WN	(***)	KE6URO
7 (*)	AB7KN	KJ7OI	(***)	KC7LLW
8 (*)	AA8TS	KG8RR	(***)	KB8ZWA
9 (*)	AA9PB	KG9CQ	(***)	KB9KSE
N.Mariana Is.	KH0R	AH0AW	KH0DW	WH0ABC
Guam	WH2P	AH2CZ	KH2NT	WH2ANM
Johnston Is.	AH3D	AH3AD	KH3AG	WH3AAG
Midway Is.		AH4AA	KH4AG	WH4AAH
Hawaii	(**)	AH6OD	(***)	WH6CVT
Kure Is.			KH7AA	
Amer. Samoa	AH8O	AH8AH	KH8CI	WH8ABB
Wake W.Peale	AH9C	AH9AD	KH9AE	WH9AAI
Alaska	(**)	AL7QC	(***)	WL7CNA
Virgin Is.	WP2R	KP2CE	NP2IG	WP2AHX
Puerto Rico	(**)	KP4ZO	(***)	WP4MYZ

* = All 2-by-1 format call signs have run out in all radio districts. Group "A" 2-by-2 format call signs from the AA-AK block are now being assigned.

** = All Group A (2-by-1) format call signs have been assigned in Hawaii, Alaska and Puerto Rico. 2-by-2 format call signs are now being assigned.

*** = Group "C" (N-by-3) call signs have now run out in these call districts. According to the rules, Technician, Tech Plus and General class amateurs are next assigned Group "D" (2-by-3 format) call signs.

[Source: FCC, Gettysburg, Pennsylvania]

• The Socorro Amateur Radio Association (SARA, Socorro, New Mexico) will be operating a special event station on July 15 and 16 commemorating the 50th ANNIVERSARY OF THE FIRST ATOMIC BLAST. Due to the narrow operating window allowed at the Trinity Site, SARA will operate the Special Event station from Socorro on Saturday July 15 in the afternoon and evening. Operation from the Trinity Site will be on Sunday, July 16th from 6 a.m. to noon. Callsign will be NA5N.

SARA will operate one SSB station. All other activity will be CW/QRP. It is unknown exactly how many stations will be operating since other individuals and clubs will also be setting up stations. SARA will sponsor a "Hamburger Fry" Saturday from 4-6 pm for all QRPers in Socorro for the Trinity activities. Contact Paul NA5N if you need further information at internet address: pharden@aoc.nrao.edu

• On February 4, 1995, the North Texas Balloon Project (NTBP) launched it's 6th amateur radio, high altitude balloon payload. Onboard were several experiments, including a 10 watt ATV transmitter. The video for this transmitter came from a color CCD camera which was mounted to a rotation shaft. The camera could be commanded to any of 256 positions covering 180 degrees of elevation; from straight up to straight down.

When the balloon approached burst altitude, ground operators commanded the camera to point up at the balloon so that the burst could be observed. They were rewarded with about 30 seconds of incredible video.

The NTBP has produced a video tape documenting the trials and tribulations of NTBP#6, including the spectacular balloon burst sequence. The video will make you laugh at first, and then "wow" you before it's over. Also included is the NTBP#1 video as well to give the viewer a feel for how far the group has progressed in such a short time.

The video is being offered as a fund raising activity for the NTBP. They are asking \$15 for each tape (postage paid). If you are interested in obtaining this video, please order from: Doug Howard, KG5OA, 2517 Coldstream Drive, Fort Worth, TX 76123.

Contributed funds will be put towards the next launch (NTBP#7) scheduled for 22 July 1995. Note that this will be only one week after the South Texas Balloon Launch Team mission #10 (BLT-10), scheduled to launch on 15 July 1995.

For up-to-date information regarding balloon launches, you can subscribe to an amateur radio balloon project internet re-mailer by sending a request to Bob Kosa, N5LCO; internet address n5lco@amsat.org.

• The Hungarian Radioamateur Society (MRASZ) will hold the High Speed Telegraphy World Championship at Lake Balaton, Hungary in October 1995. It is hoped that entrants from all ITU Regions will compete. Each national team may contain up to twelve members representing six categories:

- Seniors - Men older than 20 years old.
- Senior YLs - Women older than 20 years old
- Juniors - Boys up to 20 years old
- Juniors YL - Girls up to 20 years old
- Old Boys - Men 45 years and older
- Old Ladies - Women 40 years and older

The championship comprises several tests involving the reception and transmission of letter, figure and mixed text messages ...and copying callsigns. Straight or electronic keys may be used.

The winners will receive Gold, Silver and Bronze Medals and certificates. (Thanks, Tony Smith, G4FAL)

DIGITAL SPREAD SPECTRUM, STORE-AND-FORWARD COMMUNICATIONS SATELLITE

The following from the Naval Postgraduate School tells about an exciting new ham satellite that is due to be launched in Jan. 1997 from the Space Shuttle.

Introduction

The Petite Amateur Navy Satellite (PANSAT) is a small, spread-spectrum communication satellite developed by the Naval Postgraduate School (NPS) as an educational project for officer students. PANSAT will be a tumbling spacecraft with a weight of 150 pounds to be completed in 1996.

PANSAT will most likely be launched from the Space Shuttle in January 1997, by means of the Hitch-Hiker program. The launch will place PANSAT in a Low Earth Orbit (LEO) with an inclination of at least 28 degrees.

The spacecraft will supply direct-sequence, spread-spectrum modulation with an operating center frequency of 436.5 MHz, a bit rate of 9600 bits per second and 4 MB of message storage. Amateur radio ground stations will be able to utilize PANSAT for store-and-forward communication.

Educational Opportunities

PANSAT offers officer students an opportunity to gain practical education in Space Systems Engineering and Operations by way of Master's degree theses, class projects and directed study courses. Topics include areas such as mission operations, astrodynamics, mechanical and electronic subsystem design, system integration, and protoflight testing. As of February 1994, approximately forty PANSAT related theses have been completed with an additional twelve in progress.

Spread-Spectrum Modulation

Direct-sequence (DS) spread-spectrum modulation is a technique that spreads a conventional narrow-band signal by mixing it with a bit stream. The result is a dilution of the signal energy with respect to bandwidth.

The spread-spectrum signal has the same energy per bit as the narrowband signal, but the power density at any one frequency is significantly lower. The signal can be spread to such a point that it is entirely below the noise level of a conventional receiver, making it difficult to detect or intercept.

Amateur spread-spectrum (SS) emission is authorized in all bands above 420 MHz subject to certain logging requirements specified in Section §97.311. The transmitter power must not exceed 100 watts.

The receiver of a spread-spectrum signal uses the same bit stream to despread (demodulate) the signal.

Through the despreading of the signal, conventional signals are suppressed, making it resistant to interference and difficult to jam.

Potential Applications

Through use by the amateur radio community PANSAT will supply a means to demonstrate spread-spectrum communications. In addition, PANSAT provides many potential applications for low-cost communications.

The low probability-of-intercept would be an important feature for the military in downed-pilot-rescues. The pilot could obtain his/her location through a GPS system and uplink the information to the orbiting satellite at low risk. Examples of civilian uses include emergency rescue and communication to remote areas.

Development

Spacecraft Configuration and Design

PANSAT has a robust structural design with high margins of safety and is adaptable to a number of launch vehicles. The satellite is approximately 19 inches in diameter and has no attitude control or propulsion.

Eighteen square and eight triangular aluminum panels make up the outer surface of the satellite. Seventeen of the square panels are equipped with solar panels and four dipole antennas are attached in a tangential turnstile configuration to the triangular plates.

The spacecraft interior structure is composed of two equipment plates and a cylindrical support. The three main spacecraft subsystems are: electrical power (EPS), digital control (DCS), and communication (COMM).

Testing

To prepare the spacecraft for flight, it will undergo functional and environmental testing at the system and subsystem level. The environmental testing includes thermal vacuum, random vibration, and electromagnetic interference and compatibility (EMI/EMC) testing. All testing will be conducted using NPS space test facilities.

Ground Station

A modified amateur satellite ground station is needed to communicate with PANSAT. The NPS ground station utilizes off-the-shelf software, is micro-computer controlled, and is equipped with a spread-spectrum modem.

The NPS ground station is similar to a typical amateur radio user station, except it has spacecraft command capability. The NPS ground station is also utilized as a classroom instructional laboratory.